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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,031	08/22/2001	Hany Aziz	D/A0888	9210

7590 09/30/2003

Patent Documentation Center  
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Rochester, NY 14644

EXAMINER

PHINNEY, JASON R

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/935,031

Applicant(s)

AZIZ ET AL.

Examiner

Jason Phinney

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-- Th MAILING DATE of this communication appears on th cover sh t with th correspondence addr ss --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The Amendment, filed on 7/23/03, has been entered and acknowledged by the Examiner.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-4, 7, 8, 10, 12, and 13 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by the article titled “A low reflectivity multiplayer cathode for organic light-emitting diodes” published in Thin Solid Films by Renault.

Regarding Claim 1, Renault discloses an organic light emitting device that comprises a first electrode (Figure 1, ITO-coated glass), a second electrode (Mg-Carbon Layers), and a luminescent region including an organic electroluminescent material between the first electrode and the second electrode (Tb Complex), wherein one of the first electrode and the second electrode includes both a single substantially transparent charge injecting layer (Mg) adjacent to the luminescent region and an electrically conductive light absorbing layer (Carbon), wherein the light-absorbing layer is positioned farther from the viewer side than the luminescent region and the light absorbing layer overlays the charge injecting layer (see Figure 1).

Regarding Claim 2, Renault further discloses that the device should comprise a substrate (Glass), wherein one of the first electrode (the ITO coated on the glass substrate) and the second electrode is between the substrate and the luminescent region (see Figure 1).

Regarding Claim 3, Renault further discloses that the charge-injecting layer should have a thickness ranging from about 10 Angstroms to about 50,000 Angstroms (Page 196, Column 2, Lines 19-22).

Regarding Claim 4, Renault further discloses that the light-absorbing layer should be deposited by thermal evaporation in vacuum (Page 196, Column 2).

Regarding Claim 7 Renault discloses an organic light emitting device that comprises in sequence: (a) a cathode including: (i) an electrically conductive light absorbing layer (Carbon), and (ii) a single substantially transparent electron injecting layer (Mg); (b) a luminescent region including an organic electroluminescent material (Tb Complex); and (c) an anode that is substantially transparent to light (ITO layer coated on glass), wherein the light-absorbing layer is positioned farther from the viewer side than the luminescent region and the light absorbing layer overlays the charge injecting layer (see Figure 1).

Regarding Claim 8, Renault further discloses that the device should further comprise a substantially transparent substrate (Glass), wherein the anode (ITO coated on glass) is between the luminescent region and the substrate (see Figure 1).

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Regarding Claim 10, Renault further discloses that the cathode should further comprise a metallic layer (Al), wherein the light-absorbing layer (Carbon) is between the metallic layer and the electron-injecting layer (Mg, see Figure 1).

Regarding Claim 12, Renault further discloses that the electron-injecting layer should have a thickness ranging from about 10 Angstroms to about 50,000 Angstroms (Page 196, Column 2, Lines 19-22).

Regarding Claim 13, Renault further discloses that the light-absorbing layer should be deposited by thermal evaporation in vacuum (Page 196, Column 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article titled "A low reflectivity multiplayer cathode for organic light-emitting diodes" published in Thin Solid Films by Renault.

Regarding claims 5, 6, 14, and 15, Renault discloses the claimed invention except for the limitation of the required amount of light extinction the light absorbing layer should exhibit. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in

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the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the required amount of light extinction the light absorbing layer should exhibit, since optimization of workable ranges is considered within the skill of the art.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the article titled "A low reflectivity multiplayer cathode for organic light-emitting diodes" published in Thin Solid Films by Renault in view of U.S. Patent No. 5,834,893 to Bulovic.

Renault discloses the device of Claim 7 as described above.

Renault fails to exemplify that the cathode should be between the luminescent region and the substrate.

Bulovic in an alternate organic light-emitting device teaches this inversion of the device in order to change the direction in which the light is emitted (see Figure 1).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to invert the device taught by Renault in the Manner employed by Bulovic in order to change the direction of the emitted light.

***Allowable Subject Matter***

7. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 11, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 11, and specifically comprising the limitation that the cathode should further comprise a buffer layer between the light absorbing layer and the electron-injecting layer.

9. Claim 16 is allowed.

10. The following is an examiner's statement of reasons for allowance:

Regarding claim 16, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 16, and specifically comprising the limitation of the sequence: (a) a transparent cathode; (b) a luminescent region including an organic electroluminescent material; and (c) an anode including: (i) a substantially transparent hole injecting layer, and (ii) an electrically conductive light absorbing layer wherein the light-absorbing layer is positioned farther from the viewer side than the luminescent region and the light absorbing layer overlays the charge injecting layer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

11. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Phinney whose telephone number is (703) 305-3999. The examiner can normally be reached on M-F 7:30-4:00.

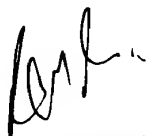
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
JP

  
NIMESHKUMAR D. PATEL  
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